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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/544,114

04/20/2006

Martin Laichinger

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EXAMINER

HUFTY, JOHN PAGE

ART UNIT

PAPER NUMBER

3747

MAIL DATE

DELIVERY MODE

08/08/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/544,114

Applicant(s)

LAICHTINGER ET AL.

Examiner

J. Page Hufty

Art Unit

3747

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/15/2007
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 1-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Introduction

Examiner thanks applicant for the cordial manner in which business is conducted with the United States Patent and Trademark Office.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18-29, 32, 33, 36, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beuten et al. U.S. Patent Application Publication 2002/0073400, in view of Murray U.S. Patent 4,942,550,

To the extent that Beuten does not expressly disclose the functional element which applicant has added to amended claim 18, specifically "**so as to**

minimize a capacitive loading by the at least one second interface."

Murray teaches to minimize capacitance in interconnections of circuit boards by minimizing interconnection lengths, for the benefit improved operating speeds (**Murray: column 2, line 40-51**).

A person of ordinary skill in the art of motor vehicle control systems at the time of invention had an undergraduate level degree in electrical engineering or the equivalent from on the job experience. This person is knowledgeable in the data transmission requirements and available options to carry out data transfers at the time of invention.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine Beuten with Murray for the benefit of improved operating speeds. Applicant's claims are below with relevant citations.

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18. (Currently Amended) A motor vehicle control unit, comprising:
a processor; a first interface for communicating with a functional unit of a motor vehicle; and at least one second interface combined with the processor in a sub-assembly (**Beuten: fig 1 and 2; feat 7, 14, 15; ¶02 and 37**). so as to minimize a capacitive loading by the at least one second interface (**Murray: column 2, line 49+**).

19. (New) The motor vehicle control unit as recited in Claim 18, further comprising: an engine control unit (**Beuten: ¶ 02, 28 and 33**).

20. (New) The motor vehicle control unit as recited in Claim 18, further comprising: a storage module, wherein: the at least one second interface accesses the storage module without participation of the processor (**Beuten: ¶ 28, 35, and 37; fig 1 and 2, features 3, 6, and 7**).

21. (New) The motor vehicle control unit as recited in Claim 18, further comprising: a storage module, wherein: the at least one second interface accesses a code of the processor in the storage module for a writing purpose (**Beuten: ¶ 22, 37**).

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22. The motor vehicle control unit as recited in Claim 1.8, wherein:

the at least one second interface performs a block transfer of data (Beuten: ¶ 35 and 37).

23. The motor vehicle control unit as recited in Claim 18, wherein:

the first interface is combined with the processor and the at least one second interface in the sub-assembly (Beuten: fig 2, features 1,7 and 14).

24. The motor vehicle control unit as recited in Claim 18, wherein:

the sub-assembly includes a printed-circuit board (Beuten: inherent).

25. The motor vehicle control unit as recited in Claim 18, wherein:

the sub-assembly includes a semiconductor chip (Beuten: inherent).

26. The motor vehicle control unit as recited in claim 18, further comprising:

a storage module for storing operating parameters of the processor,
wherein: the storage module is able to be at least one of written on and
read out via the at least one second interface (Beuten: fig 2; feature 6 and
7).

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27. The motor vehicle control unit as recited in Claim 18, wherein:

the at least one second interface includes a serial interface (Beuten: ¶ 33, 35).

28. The motor vehicle control unit as recited in Claim 18, wherein:

the at least one second interface includes one of an ethernet and a FireWire interface (Beuten: ¶ 33, 35).

29. The motor vehicle control unit as recited in Claim 18, wherein:

the at least one second interface includes a USB interface (Beuten: ¶ 33, 35).

32. The motor vehicle control unit as recited in Claim 18, further

comprising: a storage module, wherein: the at least one second interface is able to at least one of read and write to individual storage locations of the storage module in an

interrupt mode (Beuten: ¶ 28, 35 and 36).

33. The motor vehicle control unit as recited in claim 18, wherein: the at least one second interface is connected to no functional unit of a motor vehicle that is to be controlled (Beuten: fig 2; feature 3, 6, 7, 8, and 14).

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36. The motor vehicle control unit as recited in Claim 18, wherein the processor, the first interface and the at least one second interface are integrated on a shared semiconductor substrate **(Beuten: inherent)**.

37. The motor vehicle control unit as recited in Claim 36, wherein the entire motor vehicle control unit is integrated on a semiconductor substrate **(Inherent to cited art)**.

Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beuten and Murray as applied to claim 18 above, and further in view of Larky et al. U.S. Patent 6,311,294.

Beuten discloses a controller of a motor vehicle having multiple interfaces. To the extent that Beuten and Murray do not expressly disclose the transmission characteristics of applicant's claims, Larky teaches these elements as cited below in applicant's claims for efficient bulk data retrieval **(Larky: column 3, line 7)**.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine Beuten and Murray with Larky for the benefit of efficient bulk data. Applicant's claims are below with relevant citations.

30. The motor vehicle control unit as recited in Claim 18, wherein:
the at least one second interface transmits data received from the processor via the first interface in an isochronous mode (**Larky: abstract**).

31. The motor vehicle control unit as recited in Claim 18, wherein:
the at least one second interface transmits control parameters of the processor in bulk mode (**Larky: abstract, fig 4**).

Claims 34, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beuten et al. U.S. Patent Application Publication 2002/0073400, in view of Murray U.S. Patent 4,942,550 and further in view of Larky et al. U.S. Patent 6,311,294.

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Beuten discloses a controller of a motor vehicle having multiple interfaces. To the extent that Beuten does not expressly disclose the USB characteristics of applicant's claims, Larky teaches these elements as cited below in applicant's claims for efficient bulk data retrieval over a USB port (**Larky: column 3, line 7**) . . .

To the extent that Beuten does not expressly disclose the functional element which applicant has added to amended claim 34, specifically **"so as to minimize a capacitive loading by the at least one second interface."**

Murray teaches to minimize capacitance in interconnections of circuit boards by minimizing interconnection lengths, for the benefit improved operating speeds (**Murray: column 2, line 40-51**) .

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine Beuten with Murray and Larky for the benefit of

improved operating speeds and efficient bulk data retrieval over a USB port. Applicant's claims are below with relevant citations.

34. (Currently Amended) A method for communicating between a motor vehicle control unit and an external host, comprising:

providing a first interface for communicating with a functional unit of the motor vehicle; providing at least one second interface for communicating with the external host, the at least one second interface being combined with a processor in a sub-assembly so as to minimize a capacitive loading by the at least one second interface (Beuten: fig 1 and 2; feat 7, 14, 15; ¶02 and 37; Murray: column 2, line 49+).

and causing the external host to stipulate different USB endpoints and transmission modes for different types of data to be exchanged between the external host and the motor vehicle control unit (Larky: column 5, line 25 - 62; fig. 4).

35. The method as recited in Claim 34, further comprising: causing the external host to poll the USB endpoints according to a priority sequence (Larky: column 5, line 26- 63).

Response to Arguments

Examiner notes that applicant has argued against the combination of Beuten and Larky in the previous office action, specifically by stating:

Moreover, the Office Action's assertion that "[a] person of ordinary skill in the art of motor vehicle control has an undergraduate level degree in electrical engineering or the equivalent from on the job experience" and that "this person is knowledgeable of the data transmission requirements and available options to carry out data transfers" so that "therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Beuten with Larky for the benefit of efficient data retrieval" is mere hindsight reasoning and fails to demonstrate a requisite motivation to modify the Beuten reference to provide the claimed features, which the Office Action admits is not disclosed by Beuten. Accordingly, it is respectfully submitted that claims 30, 31, 34 and 35

rejected as obvious are allowable over the reference relied upon for these further reasons.

Applicant's assertion that the combination is made based on hindsight reasoning is not found to be persuasive, given that the office action stated the specific motivation to combine was found in the Larky Patent dated October 30, 2001, column 3, line 7 (**see page 4 of Office Action 01/26/2007**).

Examiner notes that applicant has argued against the inherency in the 01/26/2007 Office Action rejections of claims 24 and 25. Specifically applicant argues:

As further regards the rejections of claims 24 and 25, it is respectfully submitted that to the extent that the Office may be relying on the doctrine of inherent disclosure for the obviousness rejection, the Examiner must provide a "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the applied art." (See M.P.E.P. § 2112;

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emphasis in original; see also Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)).

Examiner maintains the inherency based on the commonly known and commonly practiced construction methods, at the time of invention, for control devices embodied in circuit boards and semiconductors. Examiner also applies this inherency to claims 36 and 37.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additionally cited prior art teach integrated circuits with minimization of capacitance for improved data retrieval.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Page Hufty whose telephone number is 571-272-9966. The examiner can normally be reached on 9:00 am - 5:00pm, Mon- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen K. Cronin can be reached on 571-272-4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JPH

A handwritten signature in black ink, appearing to read "JPH" followed by a stylized flourish.A handwritten signature in black ink, appearing to read "SKC" followed by a long horizontal flourish.

STEPHEN K. CRONIN
SUPERVISORY PATENT EXAMINER